LESSON PLAN						
SUBJECT: ENGINEERING CHEMISTRY (TH 2B)						
Prepared by :- Dr. Shabna Patel Mr. Byomakesh Raul						
1	PERIOD-1	Physical chemistry	Atomic Structure (Ch-1)	Introduction to Engineering Chemistry Symbol, Valency and Chemical formulae of the compounds Atomic number & Atomic mass of element from Hydrogen to Zinc		
2	PERIOD-2	Physical chemistry	Atomic Structure (Ch-1)	Introduction to Engineering Chemistry Atomic number & Atomic mass of elements from Hydrogen to Zinc		
3	PERIOD-3	Physical chemistry	Atomic Structure (Ch-1)	Introduction to Atomic structure Fundamental particles (electron, proton & neutron Definition, mass and charge). Rutherford's Atomic model (postulates and failure)		
4	PERIOD-4	Physical chemistry	Atomic Structure (Ch-1)	Atomic mass and mass number, Definition, examples and properties of Isotopes, isobars and isotones.		
5	PERIOD-5	Physical	Atomic Structure (Ch-1)	Bohr's Atomic model (Postulates only), Bohr-Bury science		
6	PERIOD-6	Physical chemistry	Atomic Structure (Ch-1)	Aufbau's principle, Hund's rule, Electronic configuration (up to atomic no 30).		
7	PERIOD-7	Physical chemistry	Chemical Bonding (Ch-2)	Introduction to Electrovalent bond and formation of lonic molecule like NaCl, MgCl <sub>2</sub>		
8	PERIOD-8	Physical chemistry	Chemical Bonding (Ch-2)	Introduction to Covalent bond Formation of covalent bonded molecules like H <sub>2</sub> , Cl <sub>2</sub> , O <sub>2</sub> , N <sub>2</sub> , H <sub>2</sub> O, CH <sub>4</sub> , NH <sub>3</sub>		
9	PERIOD-9	Physical chemistry	Chemical Bonding (Ch-2)	Introduction to Co-ordinate bond Formation of molecules NH <sup>+</sup> , SO <sub>2</sub>		
10	PERIOD-	Physical	Acid base theory (Ch-3)	Concept of Arrhenius theory of Acid Base with examples and Limitations		
11	PERIOD-	Physical chemistry	Acid base theory (Ch-3)	Concept of Bronsted-Lowry filedry of Acid base mini- examples and Limitations & Conjugate Acid base pair		
12	PERIOD- 12	Physical chemistry	Acid base theory (Ch-3)	Limitations Neutralization of acid & base		
13	PERIOD- 13	Physical chemistry	Acid base theory (Ch-3)	double, complex and mixed salts, definitions with 2 examples)		

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14	PERIOD-	Physical	Solutions (Ch-4)	Definitions of atomic weight, molecular weight, Equivalent
	14	chemistry		weight.
15	PERIOD-	Physical	Solutions (Ch-4)	Determination of equivalent weight of Acid, Base and Salt.
	15	chemistry		Antipart (Normality 8
16	PERIOD-	Physical	Solutions (Ch-4)	Modes of expression of the concentrations (Normality &
	16	chemistry		Molarity) With simple problems
17	PERIOD-	Physical	Solutions (Ch-4)	Modes of expression of the concentrations (worancy) with
	17	chemistry		simple problems
18	PERIOD-	Physical	Solutions (Ch-4)	pH of solution (definition with simple numerical)
	18	chemistry		Importance of pH in industry (sugar, textile) paper
				Industries only)
19	PERIOD-	Physical	Electrochemistry	Definition and types (Strong & Wear) of the sample of
	19	chemistry	(Ch-5)	example. Electrolysis (Finiciple of Planta and a gueous solution). Faraday's 1st law of
				Floctrolysis (Statement, mathematical expression and
				Simple numerical)
			Floatrochomistry	Faraday's 2 day of Electrolysis (Statement, mathematical
20	PERIOD-	Physical	Electrochemistry	expression and Simple numerical) Industrial application of
	20	chemistry	(Ch-5)	Electrolysis- Electroplating (Zinc only).
		Dhuning	Corrosion (Ch-6)	Definition of Corrosion, Types of Corrosion- Atmospheric
21	PERIOD-	Physical	Corrosion (en o)	Corrosion, Waterline corrosion. Mechanism of rusting of
	21	chemistry		Lon only Protection from Corrosion by (i) Alloying and (ii)
				Iron only. Protection new page
				Galvanization.
				Revision Assignment & Class test
22	PERIOD-	Physical	Physical	Nevision, respins
	22	chemistry		
			2, 3, 4, 5 &0)	Definition of Mineral, ores, gangue with example.
23	PERIOD-	Inorganic	Metallurgy (Ch 77	Distinction between Ores And Minerals.
	23	Chemistry	Motallurgy (Ch-7)	General methods of extraction of metals,
24	PERIOD-	Inorganic	Metallungy (ch. /	i) Ore Dressing
	24	Chemistry	·	ii) Concentration (Gravity separation, magnetic separation,
			Metallurgy (Ch-7)	ii) Concentration (Froth floatation &
25	PERIOD-	Inorganic		leaching)
	25	Chemistry		iii) Oxidation (Calcinations, Roasting)
		Inorganic	Metallurgy (Ch-7	) iv) Reduction (Smelting, Definition & examples that y
26	PERIOD-	Chomistry	/	tuto ustal / Electro refining, & Distillation
	26	Inorganic	Metallurgy (Ch-7	) v) Refining of the metal ( Electro refinition and
27	PERIOD-	Chamistry	/	only)
	27	Inorganic	Alloys (Ch-8)	Definition of alloy. Types of alloys (1989)
28	B PERIOD-	Chemistry	/	Amalgam) with example.
	28	Chernisti		wing and uses of Brass, Bronze, Alnico, Duralumin
		Inorganic	Alloys (Ch-8)	Composition and uses of bracky and a
29	9 PERIOD-	Inorganic	v	to immont & Class test
	29	Unerganic	Inorganic	Revision, Assignment & class terr
3	0 PERIOD	Inorganic	v Chemistry	
	30	Chemist	(Ch- 7& 8)	ted and Unsaturated Hydrocarbons (Definition with
		Organic	Hydrocarbons	Saturated and Onsaturated in a second
3	1   PERIOD	- Organic	v (Ch-9)	example
	31	chernisti		

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/				Huckle's rule only).
				Aliphatic and Aromatic Hydrocarbons (Hydrocarbons Difference between Aliphatic and aromatic hydrocarbons
	DEDIOD.	Organic	Hydrocarbons	IUPAC system of nomenclature of Alkane with examples
32	32	chemistry	(Ch-9)	the samples
33	PERIOD-	Organic	Hydrocarbons	IUPAC system of homenclature of a memory
34	33 PERIOD-	Organic	Hydrocarbons	IUPAC system of nomenclature of Alkene with examples
54	34	chemistry	(Ch-9)	UIDAC system of nomenclature of Alkyl hallide with
35	PERIOD-	Organic	Hydrocarbons	examples
36	35 PERIOD-	Organic	Hydrocarbons	IUPAC system of nomenclature of Alcohols with examples
	36	chemistry	(Ch-9)	Rendline notations
37	PERIOD-	Organic	Hydrocarbons	
38	37 PERIOD-	Organic	Hydrocarbons	Uses of some common aromatic compounds (Benzene,
30	38	chemistry	(Ch-9)	Toluene, BHC, Phenol, Naphthalene, Antimacche ente
				Benzoic acid) in daily me.
39	PERIOD-	Organic	Hydrocarbons (Ch-9)	Revision, Assignment a
10	39 PERIOD-	Organic	Hydrocarbons	Revision, Assignment & Class test
40	40	chemistry	(Ch-9)	for the Soft water Hard water hardness, types
41	PERIOD-	Industrial	Water Treatment	Sources of water, Solt water, hard water,
	41	Chemistry	(Ch-10)	of Hardness (temporary of carbonate and
42	PERIOD-	Industrial	Water Treatment	Removal of hardness by lime soda method ( hot lime-
	42	Chemistry	/ (Ch-10)	Principle, process & advantages )
43	B PERIOD-	Industrial	Water Treatment	Principle, process & advantages ) Advantages of Hot
	43	Cnemistry		lime over cold lime process.
1/	A PERIOD-	Industrial	Water Treatmen	t Organic Ion exchange method ( principle, process, and
	44	Chemistr	y (Ch-10)	regeneration of exhausted resins)
4	5 PERIOD-	Industria	Lubricants	Definition of lubricant, Types ( solid, liquid and seriisond
_	45	Chemistr	y (Ch-11)	specific uses of lubricants ( Graphite, Oils, Grease), Purpose
4	6 PERIOD-	Chemistr	ry (Ch- 11)	of lubrication
4	7 PERIOD	- Industria	I Fuel (Ch- 12)	Definition and classification of fuel, Definition of calorific
	47	Chemist	ry	value of fuel, Choice of good fuel.
		- Industria	al Fuel (Ch- 12)	Liquid: Diesel, Petrol, and Kerosene Composition and
4	48 48	Chemist	ry	uses.
	49 PERIOD	- Industria	al Fuel (Ch- 12)	Gaseous: Producer gas and Water gas (Composition and
-	49	Chemist	try	uses). Elementary idea about LPG, CNG and coal gas
-		Induceri	al Polymer (Ch-1	13) Definition of Monomer, Polymer, Homo-polymer. Co-
		Chemis	try	polymer and Degree of polymerization. Difference betwee
				Thermosetting and Thermoplastic
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			101 101	Composition and uses of Polythene, & Poly-Vinyl Chloride
51	PERIOD-	Industrial	Polymer (Ch-13)	Composition and uses of real and a
51	51	Chemistry	Polymer (Ch-13)	Composition and uses of Bakelite
52	52	Chemistry		L. L
53	PERIOD- 53	Industrial Chemistry	Polymer (Ch- 13)	Definition of Elastomer ( Rubber). Natural Rubber (it's draw backs ). Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber.
54	PERIOD- 54	Industrial Chemistry	Chemicals in Agriculture (Ch- 14)	Pesticides: Insecticides, herbicides, fungicides Examples and uses.
55	PERIOD- 55	Industrial Chemistry	Chemicals in Agriculture (Ch- 14)	Bio Fertilizers: Definition, examples
56	PERIOD-	Revision Class	Physical chemistry	Revision & Class Test
5	7 PERIOD-	Revision Class	Physical chemistry	Revision & Class Test
5	8 PERIOD	Revision Class	Inorganic Chemistry	Revision & Class Test
5	9 PERIOD	- Revision Class	Organic Chemistry	Revision & Class Test
e	50 PERIOD 60	- Revision Class	Chemistry	

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